

**PATENT COOPERATION TREATY**

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**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

**(PCT Article 36 and Rule 70)**

Applicant's or agent's file reference TS 6452 PCT	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. PCT/EP2005/051298	International filing date ( <i>day/month/year</i> ) 21.03.2005	Priority date ( <i>day/month/year</i> ) 22.03.2004
International Patent Classification (IPC) or national classification and IPC INV. E21B43/12		
Applicant SHELL INTERN. RESEARCH MAATSCHAPPIJ B.V. et al.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a.  (*sent to the applicant and to the International Bureau*) a total of sheets, as follows:
    - sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b.  (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- Box No. I Basis of the report
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

Date of submission of the demand  11.01.2006	Date of completion of this report  16.05.2006
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Georgescu, M Telephone No. +49 89 2399-



# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/EP2005/051298

## Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
    - international search (under Rules 12.3 and 23.1(b))
    - publication of the international application (under Rule 12.4)
    - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

### Description, Pages

1-12 as originally filed

### Claims, Numbers

1-15 as originally filed

### Drawings, Sheets

1/1 as originally filed

- a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3.  The amendments have resulted in the cancellation of:
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):
4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes:	Claims	1-15
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-15
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-15
	No:	Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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Reference is made to the following documents:

D1: US 4 248 308

D2: WO 99/53170

**V - Reasoned statement with regard to novelty, inventive step or industrial applicability**

**V-1 Claims 1 and 6**

The distinguishing feature of claim 1 with regard to D1 is the flow restrictor which is part of the valve protection sleeve and by means of which the sleeve is actuated when a certain pressure differential is reached in the bore of the valve.

As in both D1 (22) and D2 (18) the respective sleeves are actuated by separate pistons (30 respectively 40) positioned on the outer side of the protection sleeve, the skilled man would not find obvious to modify the configuration of the valve in order to arrive at the subject-matter of claim 1. The distinguishing feature simplifies the configuration of the valve making it more reliable and avoids the presence of supplementary hydraulic fluid sources.

Therefore, claim 1 and also claim 6 meet the requirement for inventive step of Art. 33(3) PCT.

**V-2 Claims 2 to 5 and 7 to 15**

Claims 2 to 5 and 7 to 15 as dependent claims from claim 1, respectively claim 6, also meet the requirements of Art. 33 PCT.

**VII - Certain defects**

**VII-1** The independent claims are not properly cast in the two part form, with those features which in combination are part of the closest prior art (D1 or D2) being

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placed in the preamble, contrary to the requirements of Rule 6.3(b) PCT.

VII-2 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

VII-3 Contrary to the requirements of Rule 5.1(a)(ii)PCT, the relevant background art disclosed in documents D1, D2 is not mentioned in the description, nor are these documents identified therein.